PART I - ADMINISTRATIVE

Section 1. General administrative information

Title of project

Upper Clear Creek Dredge Tailings Restoration

BPA project number: 9605300
Contract renewal date (mm/yyyy): 10/1999 ☐ **Multiple actions?**

Business name of agency, institution or organization requesting funding
USDA Forest Service, Umatilla National Forest; Confederated Tribes of the Umatilla Indian Reservation

Business acronym (if appropriate) USFS/CTUIR

Proposal contact person or principal investigator:

Name	John Sanchez
Mailing Address	Umatilla NF, 2517 S.W. Hailey Ave.
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NPPC Program Measure Number(s) which this project addresses
7.6B.5 7.6B.4 7.6C.5

FWS/NMFS Biological Opinion Number(s) which this project addresses
None

Other planning document references
Watershed Analysis for Granite Creek

Short description
Restore floodplain function to dredge minded reaches of the North Fork John Day River tributaries by rehabilitating areas with tailing piles that restrict river flow.

Target species
John Day River Spring Chinook, John Day River Summer Steelhead

Section 2. Sorting and evaluation

Subbasin
John Day River

Evaluation Process Sort

CBFWA caucus	Special evaluation process	ISRP project type
Mark one or more caucus	If your project fits either of these processes, mark one or both	Mark one or more categories

☒ Anadromous fish ☐ Resident fish ☐ Wildlife	☐ Multi-year (milestone-based evaluation) ☒ Watershed project evaluation	☐ Watershed councils/model watersheds ☐ Information dissemination ☐ Operation & maintenance ☐ New construction ☐ Research & monitoring ☒ Implementation & management ☐ Wildlife habitat acquisitions

Section 3. Relationships to other Bonneville projects

Umbrella / sub-proposal relationships. List umbrella project first.

Project #	Project title/description

Other dependent or critically-related projects

Project #	Project title/description	Nature of relationship

Section 4. Objectives, tasks and schedules

Past accomplishments

Year	Accomplishment	Met biological objectives?
1993	Pilot Project Completed, ½ mile restored	Yes
1994	Monitoring of Pilot Project	
1995	2 miles of restoration, NFJD River	Yes
1996	3 miles of restoration, NFJD River	Yes
1997	4 miles of restoration, NFJD River	Yes

Objectives and tasks

Obj 1,2,3	Objective	Task a,b,c	Task
1	Restore 1.0 miles of Clear Cr. Natural floodplain hydrology to improve juvinile and adult fish habitat condition	a	Relocate 30,000 cubic yards of a 170,000 cubic yard total of dredge tailings that restricts high stream flows
2	Control noxious weeds	a	Hand pull noxious weeds
3	Accelerate floodplain revegetation	a	Seed with native grass
4	Monitor project effectiveness to track physical floodplain development	a	Channel cross sections, photo points

Objective schedules and costs

Obj #	Start date mm/yyyy	End date mm/yyyy	Measureable biological objective(s)	Milestone	FY2000 Cost %
1	6/2000	9/2000	Yes		
2	4/2000	7/2000	No		
3	9/2000	10/2000	No		
4	4/2000	10/2000	No		
				Total	0.00%

Schedule constraints
Environmental Analysis and ESA Consultation

Completion date
2003

Section 5. Budget

FY99 project budget (BPA obligated): $85,000

FY2000 budget by line item

Item	Note	% of total	FY2000
Personnel		%4	4,000
Fringe benefits			
Supplies, materials, non-expendable property			
Operations & maintenance			
Capital acquisitions or improvements (e.g. land, buildings, major equip.)			
NEPA costs			
Construction-related support		%9	8,000
PIT tags	# of tags:		
Travel		%1	1,000
Indirect costs		%10	9,000
Subcontractor		%74	63,000
Other			
	TOTAL BPA FY2000 BUDGET REQUEST		$85,000

Cost sharing

Organization	Item or service provided	% total project cost (incl. BPA)	Amount ($)
USFS	NEPA & Consultation	%5	8,000
USFS	Contract Support	%5	8,000
USFS	Subcontractor Construction	%33	50,000

Total project cost (including BPA portion)	$151,000

Outyear costs

	FY2001	FY02	FY03	FY04
Total budget	$85,000	$25,000	$15,000	$ 0

Section 6. References

Watershed?	Reference
☐	Northwest Power Planning Council. 1994. Columbia River Basin Fish and Wildlife Program. Northwest Power Planning Council, Portland, OR
☐	McKinney, S.P. and E. Calame. 1994. North Fork John Day Dredge Tailing Restoration Project. Aqua-Talk, U.S. Forest Service R-6 Fish Habitat Relationship Technical Bulletin No. 5, Portland, OR
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PART II - NARRATIVE

Section 7. Abstract

Gold miners in the late 1930's through the early 1950's operated a floating dredge on the North Fork John Day River and its tributaries, essentially turning the river upside down and leaving the river bottom in piles near the bank. This left behind thousands of cone-shaped piles of river rock and a degraded floodplain. This project is the continuation of a multi-year project to restore the floodplain by re-depositing the tailings allowing the river to flow over portions of the floodplain previously unavailable. Channel complexity and fish habitat quality and quantity will increase as the river reclaims its floodplain, dissipating the energy of high flow events and depositing sediment that promotes riparian vegetation growth.

The strategy for monitoring and evaluating the physical floodplain recovery project results will continue to be through photo point and stream cross-section profiles. Monitoring fish population changes as a result of this project work is not proposed. This is the final phase of the dredge tailings restoration work which has been ongoing since 1993.

Section 8. Project description

a. Technical and/or scientific background

Past dredge mining severely altered the river's floodplain and instream characteristics. The tailing piles left behind confine the stream to a strait, narrow high velocity channel. The results of these have simplified aquatic habitat for summer steelhead, spring chinook salmon, and redband trout, and continue to cause streambank erosion.

The project will consist of redistributing piles of dredge tailings along 1.0 miles of river, moving portions of approximately 170,000 cubic yards of rock and gravel, throughout the floodplain of the river. This treatment will allow the river to pass high flows over the floodplain which will dissipate energy and deposit sediment. The result will be a river that meanders through the floodplain creating quality fish and wildlife habitat. The purpose of the project is to improve salmonid rearing habitat, water quality, streambank

stability and riparian function. Techniques and methods developed on this project can be applied to floodplain restoration at dredge sites on other federal lands and throughout the west.

This project is a continuation of the successful work on 9 miles of the North Fork John Day River completed downstream. The work began with a pilot project in 1993 that was successful in re-establishing 1,200 linear feet of river floodplain and redistributing dredge tailings. The monitoring results of the pilot project were published in Aqua-Talk (McKinney and Calame 1994)

The pilot project was followed by a 3-year project restoring proper floodplain function to 34 sites located on a 9-mile reach. Approximately 400,000 cubic yards of dredge tailings were redistributed on the floodplain. Chinook salmon spawning has been observed within the project area each year following project activities. The project benefits to spawning chinook salmon are obvious even to the general public and recreationists in the area. Less obvious is the benefit to rearing juvenile salmon and steelhead in winter and spring. The existing confined, high velocity stream channels are hostile environments for juvenile fish with few refuges during high flow events. The recreation of the floodplain creates refuge areas for juvenile fish that can improve natural fish production of wild chinook and steelhead.

b. Rationale and significance to Regional Programs

This floodplain restoration project specifically addresses Measure 7.6B.5. The project is critical to restore natural river function to reaches of tributaries of the North Fork John Day River that were channeled by historic dredge mining. The project has multiple benefit including fish habitat, water quality, floodplain restoration, and wildlife habitat.

The project also addresses Measure 7.6B.4 which calls for giving priority to actions that maximize the desired result per dollar spent and to actions that have a high probability of succeeding at a reasonable cost. Our past success had demonstrated the cost effectiveness of our proven techniques.

Measure 7.6C.5 calls for Federal land and water management agencies, states, tribes, and private landowners to take all steps necessary to comply with habitat objectives. This watershed restoration project has demonstrated this cooperation and mutual desire to correct past actions that have resulted in degraded habitat.

BPA is the logical funding source for this restoration effort to reclaim fish habitat that was destroyed by historic gold mining. The miners that caused the damage are not responsible for the recovery of fish habitat. The Forest Service is participating in this cost-share project but does not have the funding to complete this necessary work with its limited funds.

c. Relationships to other projects

This project complements the efforts of Oregon Department of Fish and Wildlife in their BPA contract work on private land. Jeff Neal, ODFW, is presently working on an agreement with private landowner Carter Kerns to implement similar floodplain restoration work downstream on private land along Granite Creek.

This project is not dependent on or in conflict with any other proposals.

d. Project history (for ongoing projects)

The North Fork John Day River Floodplain Restoration Project has a long history of multi-funding. The project began with a pilot project in 1993. The pilot project was monitored for 1 year before the techniques were expanded to a 9-mile reach of the North Fork John Day River from 1995 through 1997. The successful techniques in dredge tailing floodplain restoration are now expanded to the upper reaches of the watershed.

Project work has been a partnership funded by USDA Forest Service Challenge - Cost Share, appropriated anadromous fish and soil and water improvement funding, John Day Acid Spill Trust Fund, Blue Mountain Chapter Trout Unlimited, and BPA. The Confederated Tribes of the Umatilla Indian Reservation have been co-applicants on this project for 3 years. The Oregon Department of Fish and Wildlife have also worked very closely with this project and propose similar work on private land within the North Fork John Day River watershed and specifically within this subwatershed.

BPA contract work has been conducted on the North Fork John Day River since the early 1980's under contract number 8400800. This project is an example of adaptive management from earlier project efforts.

e. Proposal objectives

The project will re-establish a floodplain adjacent to the river by redistributing dredge tailing piles away from the channel. This treatment will allow the river to pass high flows, dissipate energy, and deposit sediment and would allow the river to meander through the floodplain and create quality fish and wildlife habitat. The purpose of the project is to improve salmonid rearing habitat, water quality, streambank stability and riparian function. Physical channel parameters make excellent measurable objectives for this proposed project. The cone-shaped dredge tailing piles restrict high stream flows to a narrow channel that results in accelerated bank erosion. Channel profile objectives would be established for each project reach.

The North Fork John Day River is home to wild runs of summer steelhead and spring chinook salmon. This project proposal represents the final stream segement on the Umatillla Forest in the upper North Fork John Day where it is feasible to restore the floodplain by re-depositing the dredge tailings allowing the river to flow over portions of the floodplain previously unavailable. Channel complexity and fish habitat quality and quantity will increase as the river reclaims its floodplain, dissipating the energy of high flow events and depositing sediment that promotes riparian vegetation growth.

The four proposed objectives identified in section 4 are:
1) Restore 1.0 miles of Clear Creek floodplain to improve both juvenile and adult fish habitat.
2) Control noxious weeds that could be spread from project activities.
3) Accelerated floodplain revegetation with native grass seed to help stabilize newly placed material.
4) Monitor project effectiveness to track physical floodplain recovery.

f. Methods

Restoration of natural floodplain function will be accomplished through the reconstruction of the natural floodplain strata disturbed by past mining activities. Gravel and cobble tailing piles will be used to fill depressions created by the dredging or moved to areas adjacent to the newly created floodplain.

Floodplain restoration techniques pioneered on the lower reaches of the North Fork John Day will be used to allow the rivers to re-establish floodplain function. The tailing piles left behind by past mining activity confine the streams to a straight, narrow, high velocity channel. Previous restoration activities were more structure oriented while this new approach seeks to restore floodplain function through a nonstructural approach. A track mounted excavator is used to remove the tailing piles that confine stream flow.

Tailing piles have been successfully redistributed on the floodplain or transported off-site to be used as road fill. Both techniques would be used with this proposed project.

g. Facilities and equipment

This habitat restoration project relies on existing monitoring equipment and equipment rental for construction. Replacement of field equipment could be necessary but is not anticipated at this time.

h. Budget

The BPA portion of this proposed project will primarily be used for contract/construction expenses. Eighty-five percent of BPA funds would be used for construction expenses. The remainder of the funds would be spent for travel, overhead (10%), and personnel. The personal time not associated with construction contract administration is for monitoring and noxious weed control. The USDA Forest Service contribution is estimated to be 43 percent of total project cost. The Forest Service will fund NEPA and ESA consultation in addition to contributing to direct construction expenses.

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Section 9. Key personnel

John Sanchez, Project Manager
USDA Forest Service
Fish Biologist

1979 B.S. Humboldt State University
Fish Biology and Wildlife Management

1987 Certified Fisheries Scientist
American Fisheries Society

John has 20 years of experience as a professional fisheries biologist. He has worked as a District Fisheries Biologist on three Districts in the Forest Service and has been the Forest Fish Biologist on the Umatilla NF since 1987. John's duties have included BPA Project Manager for the past 11 years.

Section 10. Information/technology transfer

Our successful project methods have been presented at workshops and through site visits from people interested in using the techniques. Our past technology transfer efforts have resulted in a proposal for similar work to be conducted on the Yankee Fork Salmon River.

Congratulations!